

SERVICE BULLETIN 76

SUBJECT: LANDING GEAR TOE-IN ALIGNMENT PROCEDURES

APPLICATION: --Glasair II RG Main Gear struts with serial numbers greater than 400 and shipped before March 5, 1990.

--Glasair III Main Gear struts shipped before March 5, 1990.

DESCRIPTION: Some builders have encountered difficulty achieving the correct landing gear toe-in (0°) when the gear retracts with the main wheel parallel to the inside of the upper wing panel, as specified in the Main Landing Gear Installation procedures. These difficulties have arisen, in part, because of misalignment between the landing gear trunnion and the half fork. The intent of the procedures described here is to adjust the main wheel axle to a position perpendicular to the pivot axis of the landing gear trunnion.

- TOOLS:
1. Bullet (can be made by cutting the head off a bolt; see FIGURE 1.)
 2. Pick (See FIGURE 1.)
 3. Standard Mechanics Tools

PROCEDURE:

STEP 1

Place the landing gear assembly on a flat surface and remove the center scissor pin. Take extra care to ensure the scissor pin retaining ring (snap ring) is not overly deflected during removal. Retain all shims and washers once the pin is removed.

STEP 2

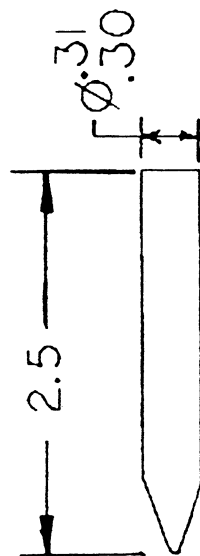
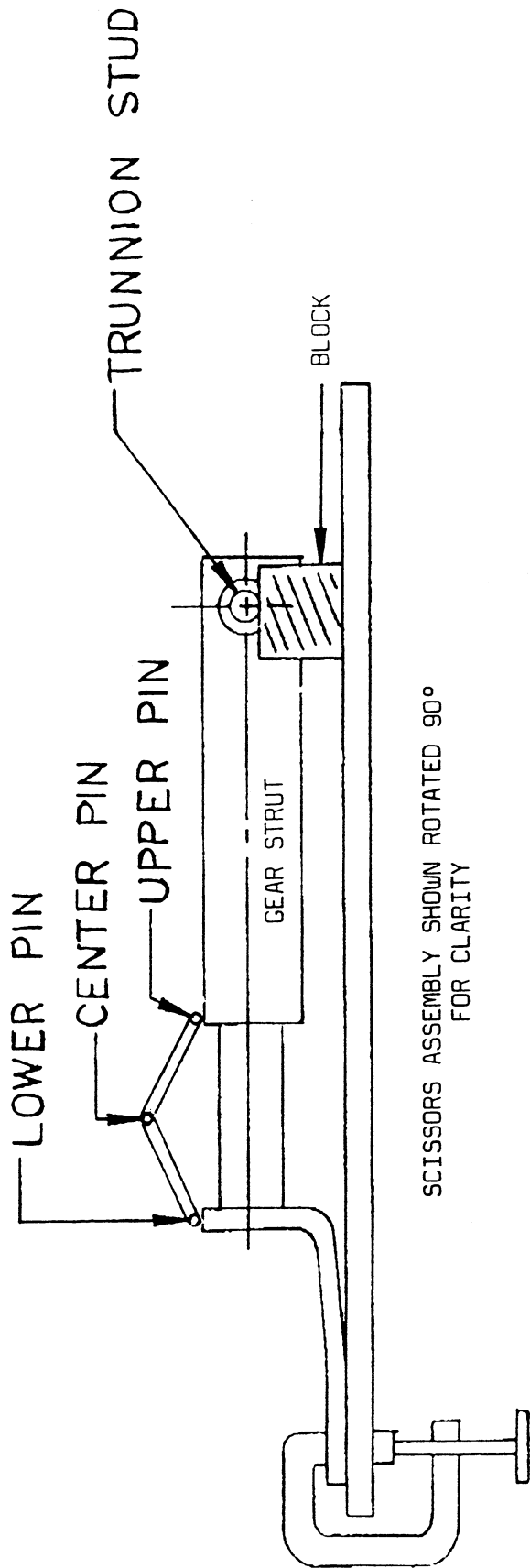
Once the center pin is removed, place a block under both the forward and aft trunnion studs. The blocks should be of equal height to orient the studs perpendicular to the main wheel axis. Clamp the half fork to the flat surface, as shown in FIGURE 1.

STEP 3

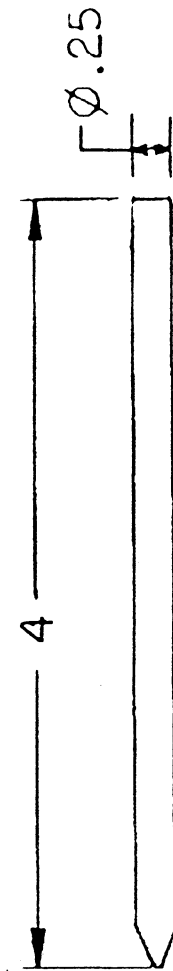
Observe the torque link scissor assembly which orients the half fork to the upper trunnion. By re-arranging the shims between the upper and lower scissors on the center pin, the alignment can be adjusted. If the center pin shims do not provide adequate adjustment, remove the upper pin. These shims can also be re-arranged to provide further adjustment.



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BULLET



PICK

FIGURE 1

STODDARD-HAMILTON
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STEP 4

Arrange the shims at the upper pin to achieve the desired alignment. Be certain that there is always at least one shim between mating surfaces. Take care to minimize slop (end play) by inserting the maximum number of shims. A very light press fit is most desirable.

STEP 5

Once the shims are in place, insert the pick through the scissor assembly to center all shims. Be certain that all shims are properly centered. Insert the bullet into the scissor assembly to further align the shims. With the bullet started, use the upper pin to push the bullet through the scissor assembly, thus completing the joint. Observe the orientation of the clevis pin hole to insure the headed clevis pin and cotter pin can be re-installed. Install the clevis pin and cotter pin. Be certain that the brake line retention threads in the upper pin are oriented properly to accept the brake line.

STEP 6

Repeat Steps 4 and 5 for the center pin.

STEP 7

If further adjustment is required, repeat Steps 4 and 5 for the lower pin.

STEP 8

It is also possible to adjust the main landing gear toe-in by inserting tapered shims between the half fork and the axle as mentioned in the Main Landing Gear Installation subsection in the WING ASSEMBLY section of your Instruction Manuals. Tapered axle shims will work for adjustments up to 2° or 3° only. Too much taper will cause excessive misalignment of the bolt holes in the half fork and the axle, resulting in difficulty installing the bolts.

STEP 9

If the above procedures do not achieve the proper toe-in alignment adjustment, contact Stoddard-Hamilton's Builder Support department for further directions.



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